

REMARKS

By the present amendment, claim 1 has been amended. Support for this amendment is found at page 18, line 20 to page 19, line 1. To further clarify the present invention, method claim 17 has been added. The new claim is supported by page 90, lines 1 to 3 and page 94, line 23 to page 95, line 3 of the present specification. Claims 1-17 are currently pending in the application.

Claims 1-16 were rejected under 35 U.S.C. 112, first paragraph, for being unclear in the use of the term "higher activity." Claim 1 has been amended to include the expression "so that the reducing agent which forms a dye has a higher logarithmic value (-LogE) of an exposing amount E giving the concentration 1.5 than that of the reducing agent which does not form a dye" to clarify the meaning of the term "higher activity." It is therefore respectfully requested that this rejection be withdrawn.

Claim 1 was rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103 as being unpatentable over U.S. Patent No. 4,021,240 to Cerquone et al. This rejection is respectfully traversed. The Cerquone patent describes a photothermographic element having a four equivalent color-forming coupler and a 2,6-dichloro- or 2,6-dibromo-4-substituted sulfonamidophenol reducing agent. In columns 7 and 8 it is stated that the coupler and the sulfonamidophenol reducing agent cause a coupling reaction upon thermal development to yield a dye that forms a color image. Lines 30 to 68 in column 6 further state other reducing agents which can be used in addition to the sulfonamidophenol reducing agent.

However, the Cerquone patent fails to teach or suggest that the sulfonamidophenol reducing agent has the "higher logarithmic value of an exposing

amount E giving the concentration 1.5" in comparison to the other reducing agents which do not form a dye, as defined in claim 1 of the present invention. Therefore, the Cerquone et al. patent neither discloses nor suggests the photothermographic material of claim 1 of the present invention.

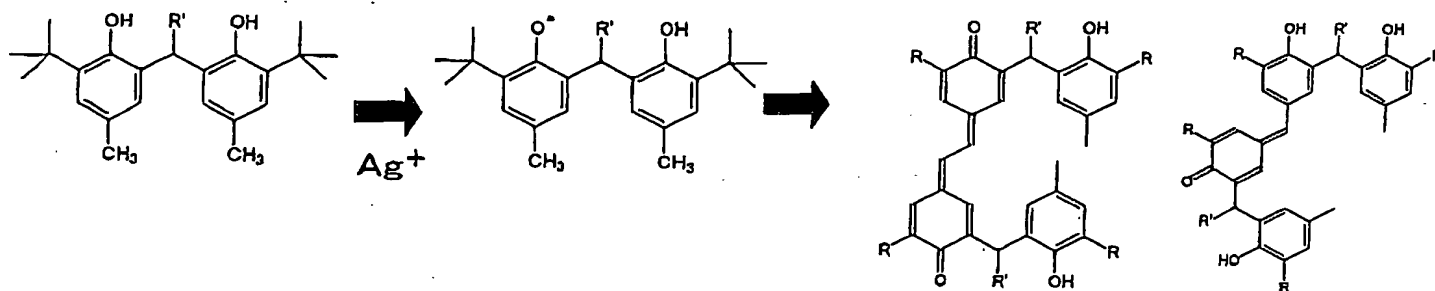
In contrast, it is a feature of the present invention that the use of a dye-forming reducing agent having a higher activity than that of the reducing agent which does not form a dye enables use of the former in a smaller amount than that of the latter (see lines 8 to 10, page 18 of the present specification). Therefore, since the reducing agent which does not form a dye mainly acts as a developer for reducing the silver halide, the reducing agent which does form a dye can efficiently act as a color toning agent for a silver image generated by reduction of the silver halide.

A relationship between amounts of the reducing agents is also neither disclosed nor suggested by Cerquone. Since the Cerquone patent utilizes a coupling reaction between the coupler and the sulfonamidophenol reducing agent, those skilled in the art would be led to think that the sulfonamidophenol reducing agent is a main component of a reducing agent of the photothermographic element of the cited reference, and thus that the sulfonamidophenol reducing agent should be used in a larger amount than the reducing agent which does not form a dye.

Claims 1-16 were rejected under 35 U.S.C. 103 as being unpatentable over EP 10096310 (EP '310). This rejection is respectfully traversed. EP '310 teaches a photothermographic material which may contain two or more of the compounds represented by general formulae (R1) or (R2) of the present invention. However, EP '310 fails to teach the combination of the compounds represented by each of formulae (R1)

and (R2), wherein the compound represented by formula (R2) satisfies the requirement of the "higher logarithmic value of an exposing amount E giving the concentration 1.5" in comparison to the compound represented by formula (R1), as defined in amended claim 1 of the present invention. This feature of the present invention allows improvement of the color tone of a silver image to be obtained.

The mechanism for forming the color yellow with the compound represented by general formula (R2), by which the color tone of a silver image is improved, is as follows:



In comparison to the compound represented by general formula (R2), the compound represented by general formula (R1) remains colorless as it does not react as is shown in the above yellow color-forming mechanism. The compound represented by formula (R1) mainly acts as a reducing agent.

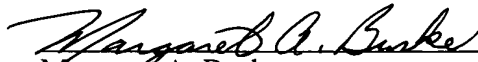
On the basis of the above-described reasons, since EP '310 neither discloses nor suggests the combination of a compound for forming the color yellow and a compound for acting as a reducing agent, it is respectfully submitted that the rejection be withdrawn.

Concerning newly-added claim 17, the Cerquone patent teaches a color image forming method by a coupling reaction; therefore the reference fails to teach the method of the present invention for forming a black and white image from a silver image on a

monosheet photothermographic material. Therefore it is believed that this claim is allowable.

In view of the foregoing amendments and remarks, it is respectfully submitted that all of the claims currently pending in the application are in condition for allowance; early and favorable action are respectfully requested.

Respectfully submitted,


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